CT imaging in the context of TAVI/TAVR

There has been significant advancement in the field of computed tomography imaging and transcatheter aortic valve implantation (TAVI)/transcatheter aortic valve replacement (TAVR). Technological advancement and data supporting the use of TAVI/TAVR have resulted in a deep integration of TAVI/TAVR and CT imaging in clinical practice. TAVI/TAVR is now considered an extremely effective treatment strategy for patients with symptomatic aortic stenosis (AS) as well as patients who are ineligible for surgery or are high-risk surgical candidates.

Advancement in the field of non-invasive imaging has also supported the growth of TAVI/TAVR and CT imaging. There was a time when CT was used mainly for the assessment of peripheral access, but since then, its role has grown substantially, and today, CT is considered as the gold standard tool for annular sizing, determination of the risk of annular injury and coronary occlusion, and to provide co-planar fluoroscopic angle prediction. CT imaging has also demonstrated benefits in the follow-up of TAVI/TAVR for post-procedural complication assessment.

Due to the increase in the volume of new data published on the use of CTA in TAVI/TAVR planning and post-procedural assessment, the Society of Cardiovascular Computed Tomography (SCCT) has released an updated consensus statement to better reflect this new data. The new consensus takes into consideration all published literature and provides recommendations for reliable CT image acquisition for TAVI/TAVR planning.

These new recommendations are an update to the 2012 SCCT consensus document. “The 2019 consensus statement represents a contemporary assessment of the role of computed tomography (CT) imaging that will serve as important guidance to a field that has seen rapid growth over the last six years,” says consensus statement author Jonathon A. Leipsic, MD, FSCCT, of the University of British Columbia. “This guidance will in turn help ensure the appropriate use of CT to help inform clinical practice and continue to drive improvements in clinical outcomes for the patients we serve.”

The updated consensus document includes:

- Recommendations for CT acquisition prior to TAVI/TAVR
- Recommendations for the sizing and reporting of the aortic valve, annulus and outflow tract
- Recommendations for the reporting of fluoroscopic angulation
- Recommendations for the reporting of vascular access, coronary artery, and non-cardiac, non-vascular findings
- Recommendations for the reporting of post- TAVI/TAVR and pre-VIV scans

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